

# **1. Overview of the SWMP**

## **1.1. Introduction**

In 2001, the Michigan Department of Environmental Quality (MDEQ) issued National Pollutant Discharge Elimination System (NPDES) Permits (No. MI0053911, MI0053929, MI0053937, MI0053953, MI0053945, hereinafter referred to as Permits) to the Michigan Department of Transportation (MDOT) for MDOT-operated storm water drainage systems in the communities of Ann Arbor, Flint, Grand Rapids, Sterling Heights, and Warren. The NPDES Permits authorize MDOT to discharge from all of its existing Municipal Separate Storm Sewer System (MS4) outfalls that serve roadways in these communities to surface waters of the state in the Clinton, Flint, Grand, and Huron River Watersheds. The Permits expire on October 1, 2006.

These NPDES Permits require MDOT to submit an approvable Storm Water Management Program and implementation schedule(s) to the MDEQ, Surface Water Quality Division, within one year of the effective date of the permit. The Permits require the Storm Water Management Program to include a description of plans to accomplish illicit discharge elimination, public education, and storm water pollution prevention.

This Storm Water Management Plan (SWMP) was developed by the Michigan Department of Transportation for the purpose of describing the procedures and practices MDOT uses to reduce the discharge of pollutants from storm drainage systems owned or operated by MDOT.

This SWMP addresses storm water pollution control related to highway planning, design, construction, and maintenance activities in the five (5) Phase I communities of Ann Arbor, Flint, Grand Rapids, Sterling Heights, and Warren. In addition, this SWMP identifies responsibilities within MDOT for implementing storm water management procedures and practices, as well as training, public education and participation, program evaluation, and reporting activities.

Introductory information is provided on the following topics in this section.

- Storm water regulations that apply to the MDOT (Section 1.2);
- The types of properties, facilities, and activities covered by this SWMP (Section 1.3);
- The relationship between the Permit and this SWMP (Section 1.4);
- Regulatory roles and responsibilities (Section 1.5); and
- The contents and organization of this SWMP (Section 1.6).

This document identifies MDOT's storm water management activities within the five (5) Phase I storm water regulated communities of Ann Arbor, Flint, Grand Rapids, Sterling Heights, and Warren.

## **1.2. Storm Water Regulations that Apply to the MDOT**

Federal environmental regulations based on the Clean Water Act (CWA) require the control of pollutants from MS4s, construction sites, and industrial activities. Discharges from such sources were brought under the NPDES permit process by the 1987 CWA amendments and the subsequent promulgation of storm water regulations by the U.S. Environmental Protection Agency (U.S. EPA). In Michigan, the U.S. EPA has delegated administration of the federal NPDES program to the Michigan Department of Environmental Quality (MDEQ). The MDEQ has issued general NPDES storm water permits for designated types of construction and industrial activities and has also developed MDOT's MS4 Permits.

Under the federal storm water regulations, portions of MDOT properties, facilities, and activities come under the jurisdiction of NPDES storm water regulations for two primary reasons:

- MDOT highways and highway-related properties, facilities, and activities are served by extensive storm drain systems that in urban areas are often connected to, and are considered to be comparable to municipal separate storm sewer systems, which are covered explicitly in the federal storm water regulations.
- Construction of MDOT's highways and related facilities often result in soil disturbance of areas greater than 5 acres and, therefore, are subject to specific requirements are prescribed by the federal storm water regulations.

The Code of Federal Regulations (CFR), at 40 CFR 122.26(a)(iii) and (iv), requires that NPDES storm water permits be issued for discharges from large and medium MS4s. The regulations define the term, "municipal separate storm sewer systems" to mean "a conveyance or system of conveyances (including roads and drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains): (i) owned or operated by a state, city, town, borough, county...." MDOT, as the owner and operator of an MS4, is subject to an NPDES MS4 permit in those areas of Michigan specified under federal regulation (urban areas with population greater than 100,000).

Furthermore, federal regulations (40 CFR 122.26) require discharges of storm water associated with construction activity, including clearing, grading and excavation activities to obtain a NPDES permit. Beginning in March, 2003, all projects disturbing greater than one acre will require a permit. MDOT Permits for the five Phase I communities currently require that MDOT implement and enforce a program for construction projects connecting to the MDOT system that disturb greater than one acre of total land area and that are not part of a larger common plan of development.

## **1.3. MDOT's Facilities and Coverage of the SWMP**

MDOT's mission is to "provide the highest-quality transportation services for economic benefit and improved quality of life." This mission involves planning, designing, constructing, and maintaining large-scale transportation facilities (e.g. freeways, highways, interchanges, bridges, and tunnels). MDOT also has the responsibility of

accomplishing its mission in ways that comply with public policy and applicable regulations, including complying with the federally-mandated storm water runoff program through complying with the Permit and implementing an effective SWMP.

### **1.3.1. MDOT Facilities and Storm Water Systems**

To protect public safety and prevent property damage, MDOT operates its storm water drainage systems to minimize flooding and prevent the presence of standing water on traveled areas within a right-of-way (ROW) via drainage systems within or adjacent to MDOT's ROWs. In some locations, runoff drains from off-site areas onto MDOT's ROWs or MDOT facility sites due to local topography and drainage patterns. In these cases, MDOT's drainage systems are designed to convey the storm water contributed from MDOT's property and storm water from off-site areas.

In urban areas, some drainage systems connect directly to receiving waters, others discharge to municipal storm drain systems. Highways in urban settings typically have curbs and gutters, whereas freeways and rural highways typically have off-shoulder or median drainage swales. For purposes of this plan, direct connections to receiving waters are identified as regulated outfalls. Connections to municipal storm drain systems are discharge points, not regulated outfalls.

MDOT's facilities are located in diverse settings, ranging from highly urbanized to very rural, including Great Lakes coastal areas, forests, and farmland. Drainage systems that serve MDOT properties and facilities ultimately discharge storm water and permitted or exempt non-storm water to receiving waters as diverse as intermittent creeks, lakes, the Great Lakes and connecting waterways, wetlands, rivers and county drains. The sensitivity of receiving waters to potential impacts from storm water discharges also varies widely, depending on factors such as location, local hydrology, the nature of MDOT's facilities and drainage systems, discharges and pollutants from other sources, and the beneficial uses of the receiving waters.

### **1.3.2. Storm Water Quality Issues**

**Designated Uses** – Waters of the State of Michigan are protected for certain designated uses as set forth in public law. Public Act 451, Part 4 Rules of Part 31, Rule 100 of 1994, states that all surface water bodies shall be protected for the following minimum designated uses:

- Agriculture
- Industrial water supply
- Public water supply at the point of intake
- Navigation
- Warm water fishery
- Other indigenous aquatic life and wildlife
- Partial body contact recreation
- Total body contact recreation between May 1 and October 31

Certain waterways are additionally designated and, therefore, protected for use as a cold-water fishery.

**Impaired Uses** - Impaired uses occur where water bodies are not meeting state water quality standards. These water bodies are considered to have non-attainment status and are listed in the state of Michigan's 303(d) List. State and federal law require the development of Total Maximum Daily Load (TMDL) allocations for 303(d) listed water bodies. Development of a TMDL requires that a plan be developed to mitigate the specific pollutants at the source, which cause the listing and non-attainment of water quality standards.

### **1.3.3. Coverage of SWMP**

This SWMP describes the minimum procedures and practices used to reduce the discharge of pollutants from storm water drainage systems owned or operated by MDOT. MDOT's activities or properties that may be sources of pollutants are:

- Road surfaces and shoulders (ROWs);
- Highway-related facilities, and
- Construction activities conducted within ROW.

The specific MDOT owned or operated facilities addressed by the SWMP are identified in Chapter 11.

In various areas of Michigan, Waters of the State may pass through, over, or under MDOT property or facilities. These waters may contain pollutants at the point at which they enter MDOT property or facilities. In these circumstances, MDOT will be responsible only for those pollutants contributed to such waters that are discharged from its point source and not for the pollutants present when they entered MDOT's properties.

### **1.3.4. Emergency Response**

Throughout the year, conditions may arise that require MDOT to conduct emergency activities to protect public health, safety, or property. Conditions during the emergency activities may result in MDOT not implementing elements of the SWMP. Such incidents are not considered non-compliance in accordance with 40 CFR Sections 122.41 (n)(1) through (n)(4), which address incidents such as an emergency response for public safety. This includes incidents in which there is an unintentional and temporary noncompliance with technology based permit effluent limitations due to factors beyond the reasonable control of the permittee. Incidents covered under this Section do not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

## **1.4. Relationship Between the Individual City Permits and the SWMP**

The Permits direct MDOT to implement and maintain an effective SWMP. MDOT is required to report annually on the SWMP's implementation and assess its effectiveness.

An important purpose of the SWMP and MDOT's Storm Water Management Program is to ensure that those who direct and perform activities that may affect the quality of storm water system discharges are aware of their respective roles and responsibilities.

Although this SWMP presents programmatic requirements and provides general guidance, it does not contain the level of detailed guidance and requirements that are needed to serve personnel at all positions within the organization whose daily activities may have an impact on storm water quality. Such specific guidance is found elsewhere in a variety of other documents, including manuals, standards, and specifications.

MDOT's goal is to incorporate BMPs identified in this and subsequent SWMPs into MDOT's general operational manuals. Copies of these operational manuals are available to purchase at <http://www.michigan.gov/mdot/>, by selecting maps and publications, followed by list of MDOT publications to order. This allows MDOT flexibility to make necessary modifications to expand or improve upon the detailed procedures within the framework of the SWMP.

### **1.5. Regulatory Roles and Responsibilities**

The CWA, as amended, directs the U.S. EPA to implement federal regulations governing water quality, including discharges from storm water systems. The CWA also allows the U.S. EPA to delegate NPDES permitting authority to states with approved regulatory programs. The State of Michigan is a delegated state, and issues, monitors, and enforces NPDES permits through its legal authority provided by Public Act 451, as amended. The U.S. EPA retains authority to approve, reject, monitor, and enforce NPDES permits in Michigan.

### **1.6. Organization of this SWMP**

The remainder of this document, including the Appendices, details the essential program elements of MDOT's Storm Water Program for the Phase I Stormwater Program regulated communities of Ann Arbor, Flint, Grand Rapids, Sterling Heights, and Warren.

- Section 2, Program Management, describes the organization and responsibilities for overall Permit compliance and program implementation within the Michigan Department of Transportation. Section 2 also describes coordination with other permittees and agencies.
- Section 3, BMP Identification and Implementation, describes the process for evaluating and selecting BMPs (details are presented in Appendix B).
- Section 4, Public Education BMPs, describes MDOT's Public Education Program elements.
- Section 5, Public Involvement/Participation BMPs, describes the mechanisms for public involvement and participation.
- Section 6, Illicit Discharge Elimination BMPs, describes MDOT programs and policies for identifying and eliminating illicit, non-storm water discharges to MDOT owned or operated storm water drainage systems and waters of the State within ROWs of MDOT.
- Section 7, Project Post Construction BMPs, describes MDOT approved best management practices (BMPs) to be put in place for new construction and/or re-development projects following the completion of construction activities.

- Section 8, Construction Erosion and Sediment Control BMPs, describes BMPs to be utilized before and during construction and earth moving activities.
- Section 9, Pollution Prevention/Good Housekeeping BMPs, describes the use of pollution prevention and good housekeeping BMPs for maintenance activities performed by MDOT.
- Section 10, Program Assessment and Reporting, describes how MDOT will provide reports to MDEQ, including noncompliance reports and annual reports required under the Permits.
- Section 11, Location Specific Information, summarizes the requirements, procedures, and practices that may be unique to individual permitted Phase I communities due to the nature of the facilities or specific water quality concerns and/or regulatory requirements for their receiving waters.
- Appendix A – Acronyms, contains a list of acronyms in this document.
- Appendix B – Details of BMP Selection and Evaluation, describes the initial process used by MDOT for selecting and evaluation storm water BMPs.
- Appendix C – Watershed and Local Stream Organizations, has a list of known watershed and local stream organizations.
- Appendix D – IDEP Field Protocol Manual, includes a copy of the field protocol manual used in the IDEP program.